

Appl. No. 10/820,043
Amdt. Dated 12 30, 2004
Reply to Office Action of 10 01, 2004

Amendments to the Specification:

Please amend the paragraph which begins on page 3, line 5 and ends on page 3, line 12 as follows:

The four ball valves 14, 15, 18, 22 installed on the hot water return line 8 and on hot water feed line 7 and on cold water feed line 13 allow the hot water system 1a to be completely isolated from the conventional hot water system. When replacement or maintenance of the hot water tank 1 or the circulating pump 17 is required the valves 14, 15, 18, 22 can be closed, resulting in easy maintenance, as the whole water system does not have to be drained. The valves 14, 15, 18, 22 give full flow once in an position and are almost the same size of as the inside diameter of the pipe that being used. 20mm ~~check~~ Check valve 12 serves to prevent hot water back flow into the cold water lines 13 when the hot water is not being drawn at any tap or in use. An air chamber 20 is also provided on the hot water line 7.

Please amend the paragraph which begins on page 3, line 14 and ends on page 3, line 16 as follows:

The ~~13mm~~ check valve 12 or 16, which are preferably between 13mm to 20mm in diameter, prevent cold water from entering the connection at the bottom of the hot water tank 1 or 1b when hot water taps are in use because it creates negative pressure in the hot water return line.

Please add the following new paragraphs on page 1, line 30.

In a first aspect, the present invention seeks to provide a hot water on demand system comprising:

- a hot water heater having an inlet and an outlet port;
- a hot water line coupled to the outlet port of the hot water heater and at least one plumbing fixture for circulating hot water from the hot water heater to each plumbing fixture;

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a cold water line coupled to each plumbing fixture for circulating cold water to each plumbing fixture;

a hot water return line coupled to the hot water line adjacent each plumbing fixture and to an inlet of the hot water heater;

a first check valve coupled to the hot water return line and the cold water line for regulating flow from the cold water line to the inlet port and for preventing hot water entering the cold water line;

a second check valve coupled to the hot water return line between the inlet port and each plumbing fixture for preventing pressure reduction in the hot water return line below a predetermined level and thereby preventing cold water from entering the hot water return line;

a pump means coupled to the hot water return line for circulating hot water from each fixture to the inlet port of the hot water heater.